

5. (Amended) The purine nucleotide of claim 1, wherein the substituent is an ether, and wherein the ether substituent has the structure:



6. (Amended) The purine nucleotide of claim 5, wherein X is an alkyl group.

7. (Amended) The purine nucleotide of claim 6, wherein X is selected from the group consisting of:

- (a) C₇H₁₃ (cycloheptyl)
- (b) (CH₃)₃CCH₂
- (c) CH₃(CH₂)_n, wherein 1 ≤ n ≤ 5

8. (Amended) The purine nucleotide of claim 1, wherein the substituent is a thioether, and wherein the thioether substituent has the structure:



9. (Amended) The purine nucleotide of claim 8, wherein X is an alkyl group.

10. (Amended) The purine nucleotide of claim 9, wherein X is selected from the group consisting of:

- (a) C₇H₁₃ (cycloheptyl)
- (b) (CH₃)₃CCH₂
- (c) CH₃(CH₂)_n, wherein 1 ≤ n ≤ 5

11. (Amended) The purine nucleotide of claim 1, wherein the substituent is an amine, and wherein the amine substituent has the structure:



12. (Amended) The purine nucleotide of claim 11, wherein X is an alkyl group.

13. (Amended) The purine nucleotide of claim 12, wherein X is selected from the group consisting of:

- (a) C₇H₁₃ (cycloheptyl)
- (b) (CH₃)₃CCH₂
- (c) CH₃(CH₂)_n, wherein 1 ≤ n ≤ 5

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of:

14. (Amended) The purine nucleotide of claim 1 selected from the group consisting

compound **6a**, compound **6b**, compound **6c**, compound **6d**, compound **6e**, compound **7a**, compound **7b**, compound **7c**, compound **7d**, compound **7e**, compound **8a**, compound **8b**, compound **8c**, compound **8d**, and compound **8e**.

15. (Amended) A method for modulating the activity of an NTPDase enzyme comprising exposing the enzyme to the purine nucleotide according to claim 1.

16. The method according to claim 15 wherein the activity of the NTPDase enzyme is inhibited.

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17. (Amended) A method for modulating the level in a biological system of:

- (a) a purine nucleotide;
- (b) a purine nucleoside;
- (c) a metabolite or derivative of (a) or (b); or
- (d) any combination thereof,

comprising the step of introducing into said system the purine nucleotide according to claim 1.

18. (Amended) A method for modulating the activity of a biological process in a biological system, wherein said process is affected by the level in said system of:

- (a) a purine nucleotide;
- (b) a purine nucleoside;
- (c) a metabolite or derivative of (a) or (b); or
- (d) any combination thereof,

comprising the step of introducing into said system the purine nucleotide according to claim 1.
